I 49.99: 81/47-1/map E15

NTIS 85-0011
FWS/OBS-82/47.1

MAP E15

Gainesville

FLORIDA ECOLOGICAL ATLAS

HYDROLOGY AND CLIMATOLOGY

ORIGINAL

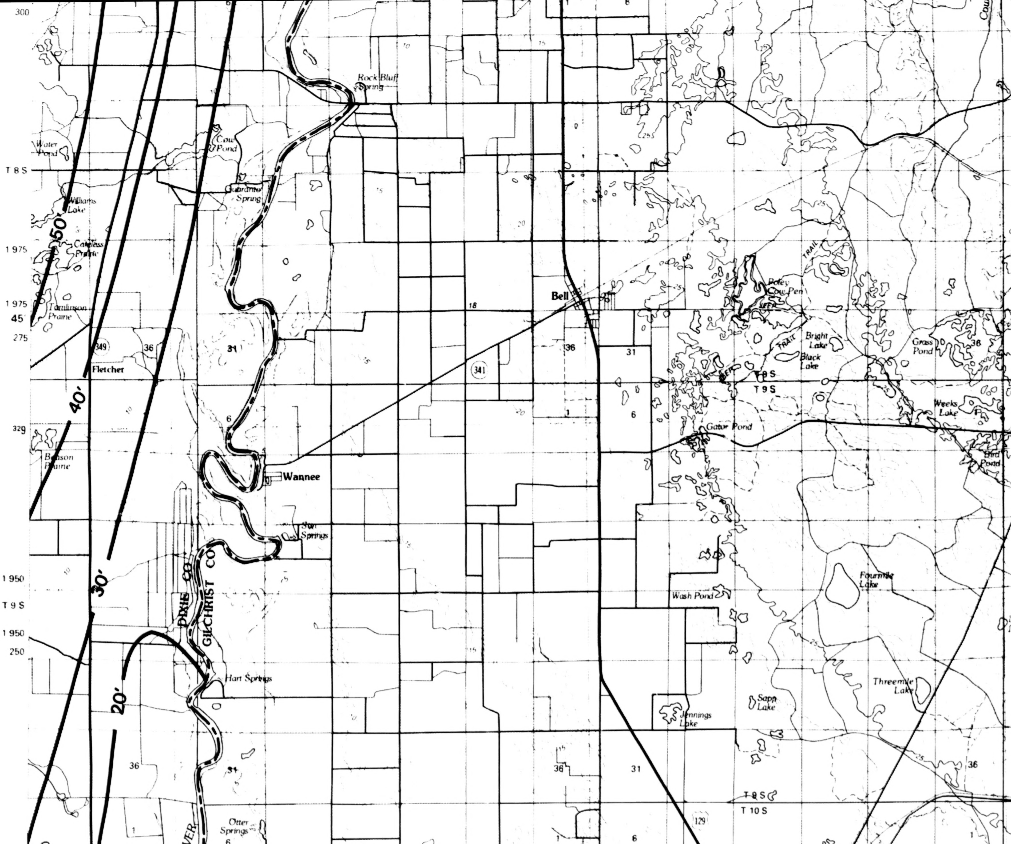
Scale 1:100 000

TOPICAL MAPS IN THIS ATLAS:
A. BIOLOGICAL RESOURCES
B. SOCIOECONOMIC FEATURES
C. SOILS AND LANDFORMS
D. OIL, GAS AND MINERALS
E. HYDROLOGY AND CLIMATOLOGY

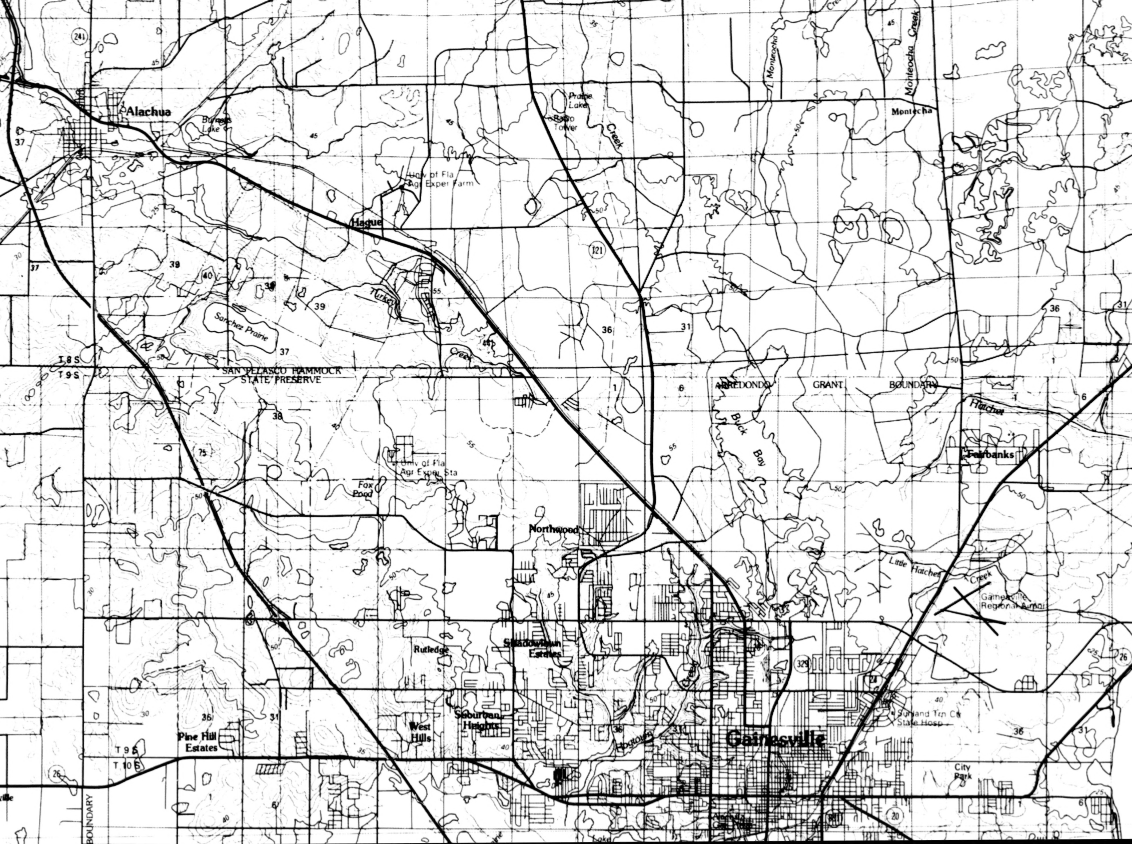
1984

Produced by U.S. Fish and Wildlife Service and Minerals Management Service

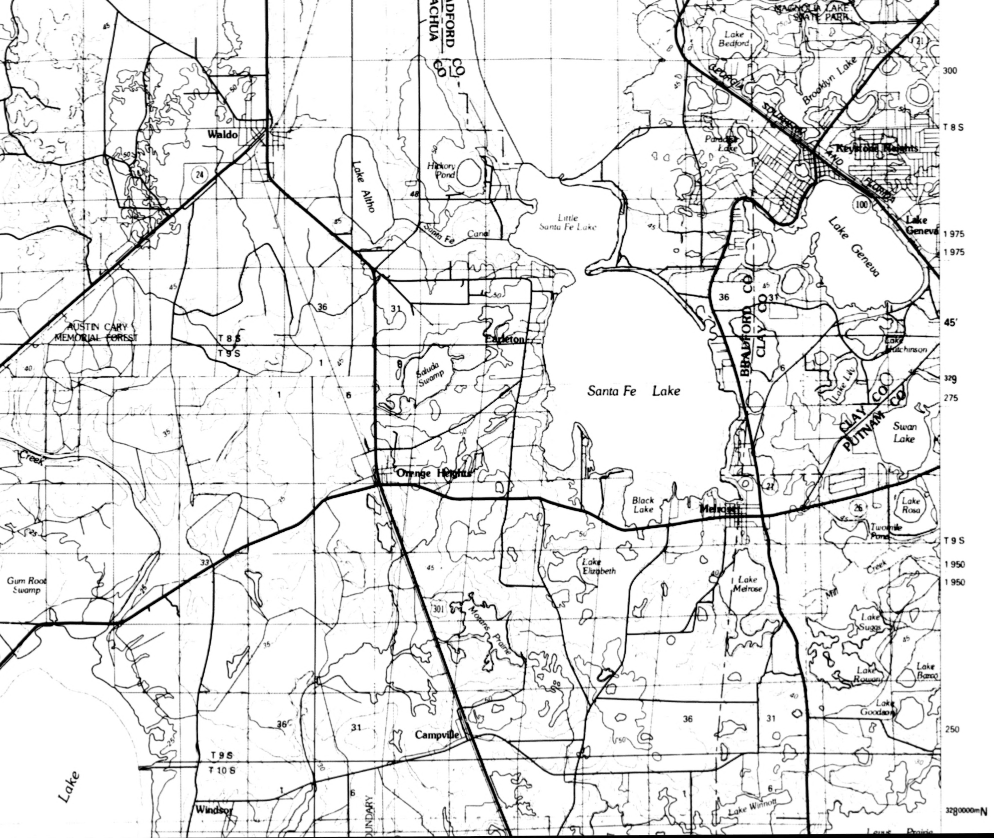
Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator
20,000-foot grid ticks based on Florida coordinate system, west zone


300
Rock Bluff Spring
Water Pond
Cow Pond
T 8 S
Guaranto Spring
Williams Lake
50'
1 975
Careless Prairie
1 975
Tomlinson Praine
45'
275
349
36
Fletcher
31
18
341
Bell
36
31
Poley Cow Pen
TRAIL
Bright Lake
Black Lake
Grass Pond
36
T 9 S
T 9 S
Weeks Lake
40'
329
Benson Praine
6
1
6
Gator Pond
Bird Pond
Wannee
Sun Springs
Fourmile Lake
30'
1 950
T 9 S
1 950
250
DIXIE CO
GILCHRIST CO
Wash Pond
Hart Springs
Threemile Lake
20'
Sapp Lake
Jennings Lake
36
31
36
31
36
T 9 S
T 10 S
129
1
Otter Springs
6
1
6
1
RIVER
25
20
15
10

GILCHRI
ALACHU
47
20
Craggs
Bagget Lake
SEABOARD
COAST
LINE
Clark
Buda
24
41
25
27
h Pond
31
36
1
6
Weeks Waterhole
Forest Grove
Cadillac
SEABOARD
COAST
LINE
Waters Lake
Waters Lake
Christmas Lake
Lee Lake
30
Haile
Dinner Pond
Fivemile Pond
Jeb Knight Pond
Newberry
Jonesv



241
Alachua
Burnetts Lake
37
Prairie Lake
Radio Tower
Creek
L. Monteocha
Monteocha Creek
Montecha
Univ of Fla Agr Exper Farm
Hague
121
39
40
Turkey
Sanchez Prairie
Creek
37
36
31
T 8 S
T 9 S
SAN FELASCO HAMMOCK STATE PRESERVE
ARREDONDO
GRANT
BOUNDARY
Hatchet
Buck
Bay
38
75
Univ of Fla Agr Exper Sta
Fox Pond
Northwood
Fairbanks
Little Hatchet
Creek
Gainesville Regional Airpor
Rutledge
Shadowlawn Estates
329
24
26
Creek
West Hills
Suburban Heights
Pine Hill Estates
T 9 S
T 10 S
26
Hogtown
Gainesville
Sunland Trn Ctr State Hosp
36
31
City Park
20
BOUNDARY
1
6


MAGNOLIA LAKE STATE PARK
Lake Bedford
Brooklyn Lake
GEORGIA SOUTHERN AND FLORIDA
300
T 8 S
Keystone Heights
Paradise Lake
Waldo
24
BRADFORD CO
ALACHUA CO
Hickory Pond
Lake Altho
48
Little Santa Fe Lake
Santa Fe Canal
100
Lake Geneva
Lake Geneva
1 975
1 975
AUSTIN CARY MEMORIAL FOREST
T 8 S
T 9 S
Earleton
36
31
BRADFORD CO
CLAY CO
45′
Lake Hutchinson
Lake Lily
329
275
Saluda Swamp
Santa Fe Lake
CLAY CO
PUTNAM CO
Swan Lake
Creek
Orange Heights
21
Black Lake
Melrose
26
Lake Rosa
Twomile Pond
T 9 S
1 950
1 950
Gum Root Swamp
33
Lake Elizabeth
Lake Melrose
Mill Creek
301
Morans Prairie
Lake Suggs
Lake Rowan
Lake Barco
Lake Goodson
36
31
Campville
36
31
250
T 9 S
T 10 S
Lake
Windsor
BOUNDARY
Lake Winnott
Lewis Prairie
3280000mN

Produced by U.S. Fish and Wildlife
Service and Minerals Management Service

Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator
25,000-foot grid ticks based on Florida coordinate system, west zone

Overlay material compiled in 1983 from latest available data obtained from Federal, State and Local government agencies and other sources.

—50′— **POTENTIOMETRIC CONTOURS OF THE FLORIDAN AQUIFER**

The map represents dry season water levels present in tightly cased wells penetrating the Floridan Aquifer during May of 1980. The contour interval is 5 and 10 feet. Contour lines have been generalized to allow for non-simultaneous water level measurement and variable well depth.

Groundwater flow is down-gradient from potentiometric highs and perpendicular to potentiometric contour lines.

(Measured in feet above mean sea level)

••••52″•••• **MEAN ANNUAL ISOHYETAL (RAINFALL) CONTOURS**

(1951-1980 National Weather Service Normal Base Period)

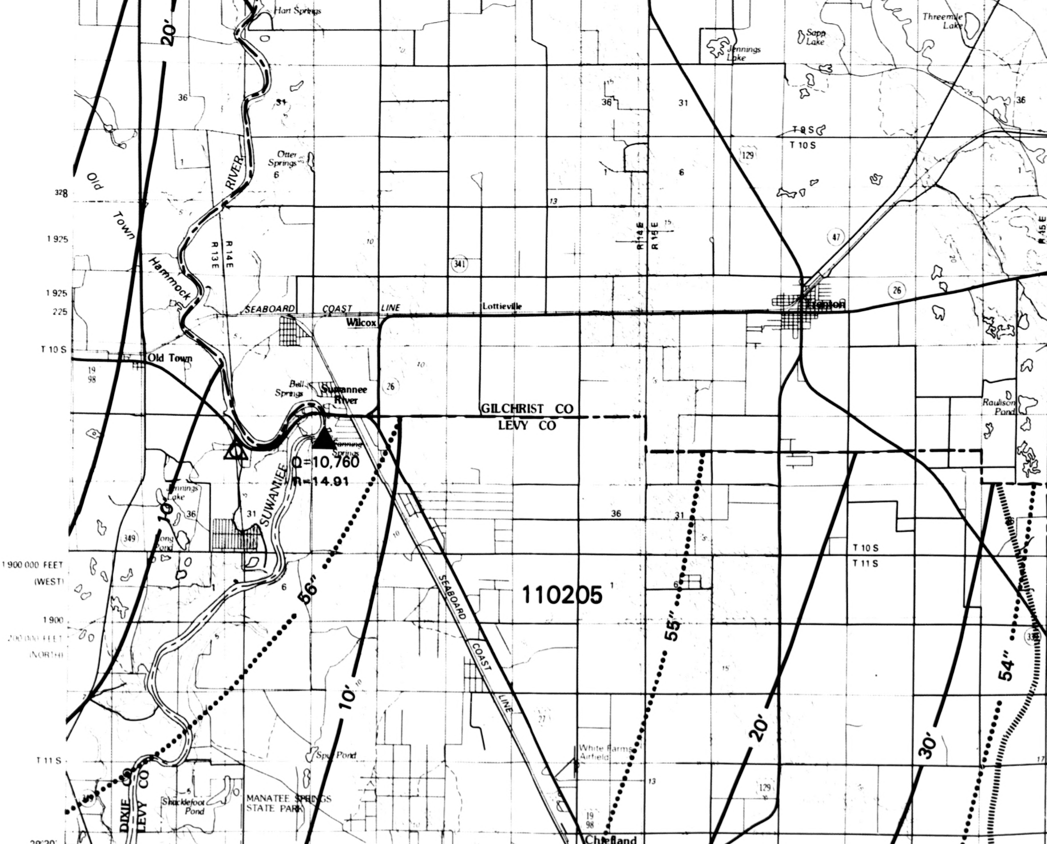
The contour interval is 1.0" (refer to narrative for monthly isohyetal maps and for trend evaluation).

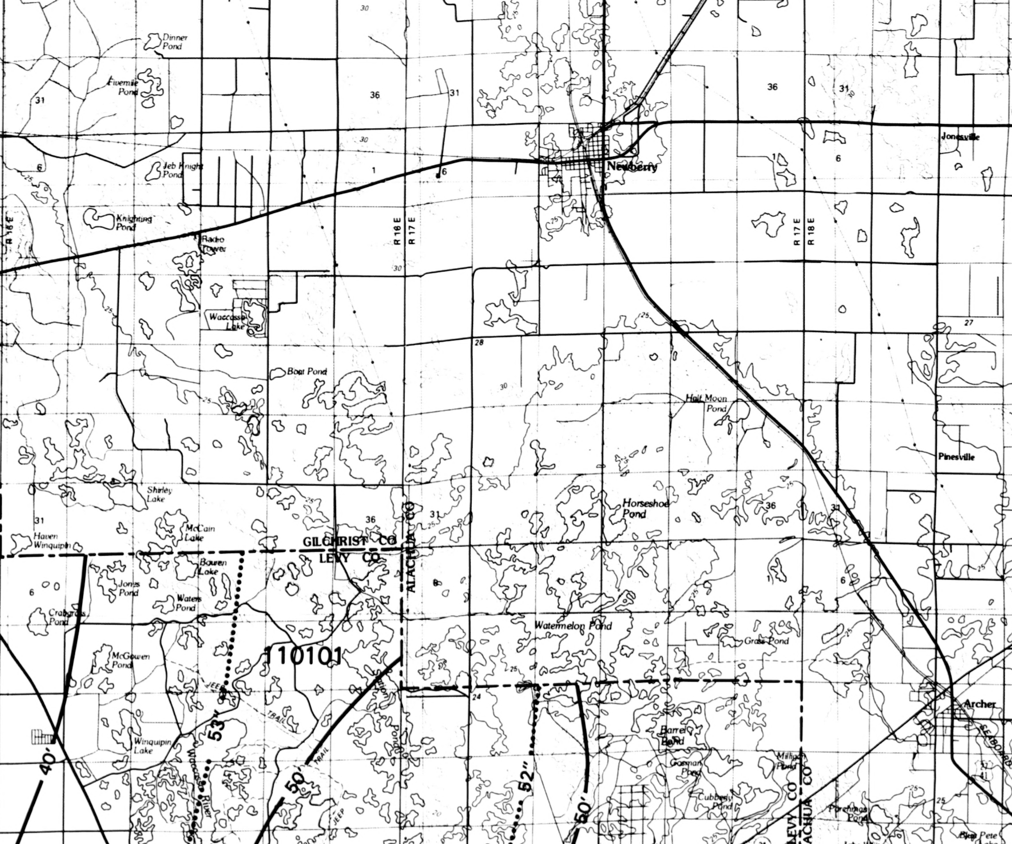
$\boxed{6}$ **NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION**

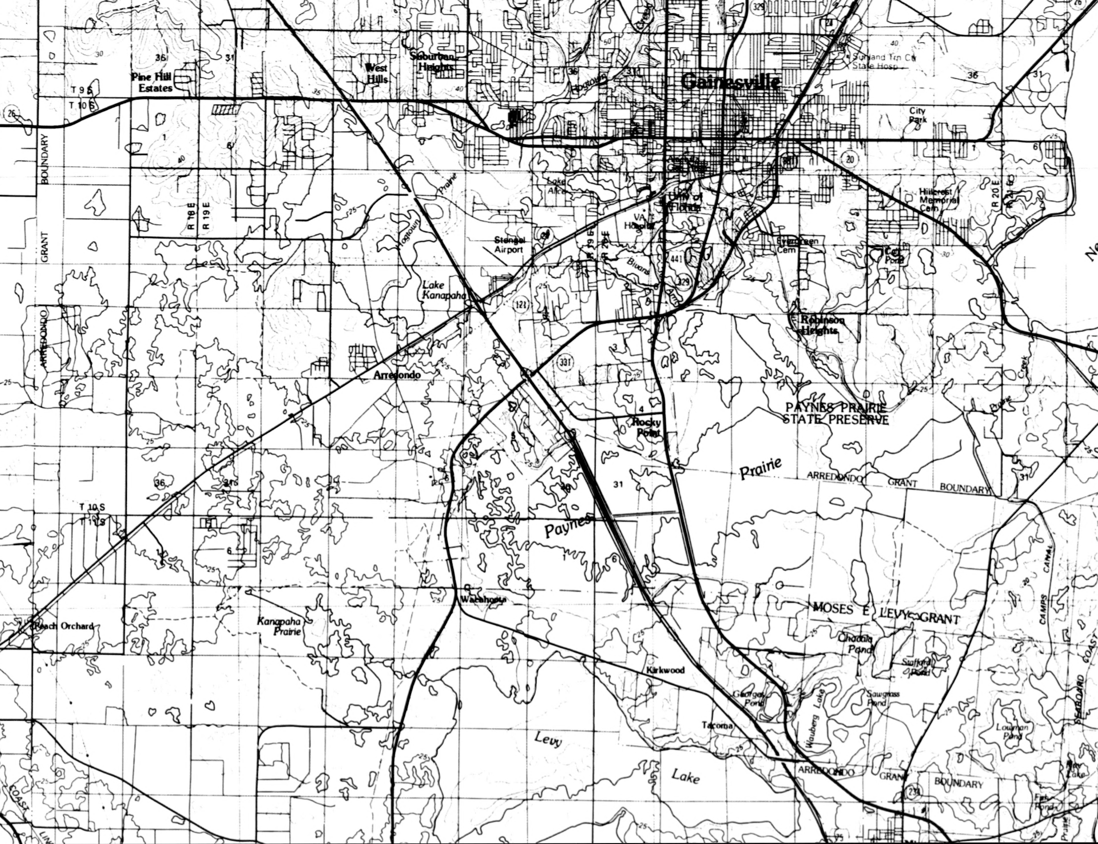
(Number in the box on map refers to station name in supplemental legend)

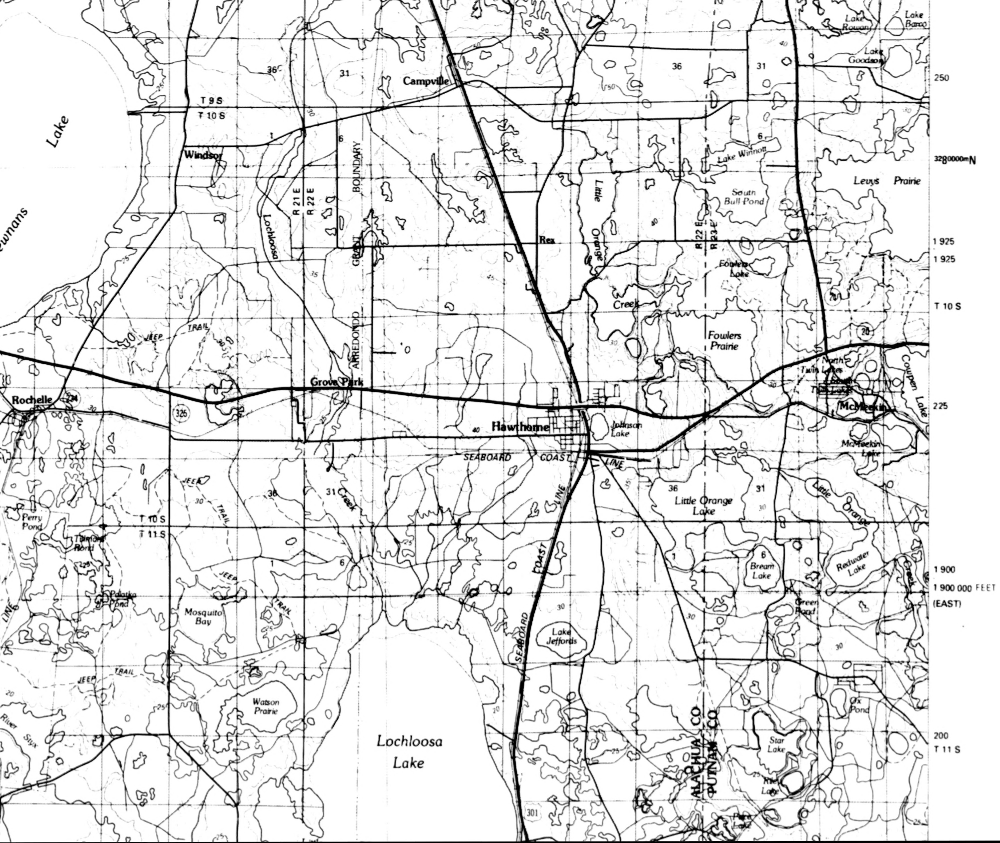
WIND ROSE STATION

Concentric circles represent 5%


Hart Springs
Threemile Lake
Sapp Lake
Jennings Lake
20'
36
31
36
T 9 S
T 10 S
129
Otter Springs
6
1
328
Old Town Hammock
RIVER
R 14 E
R 13 E
13
R 14 E
R 15 E
R 15 E
47
1 925
1 925
225
341
26
SEABOARD COAST LINE
Lottieville
Trenton
Wilcox
T 10 S
Old Town
19
98
Bell Springs
Suwannee River
26
Raulison Pond
GILCHRIST CO
LEVY CO
Fanning Springs
Q=10,760
R=14.91
Jennings Lake
36
31
36
31
SUWANNEE
349
Long Pond
10'
T 10 S
T 11 S
1 900 000 FEET (WEST)
110205
1 900
200 000 FEET (NORTH)
56"
55"
54"
SEABOARD COAST LINE
10'
20'
30'
White Farms Airfield
T 11 S
Spy Pond
13
129
DIXIE CO
LEVY CO
Shacklefoot Pond
MANATEE SPRINGS STATE PARK
19
98
Chiefland
29°30'


Dinner Pond
Fivemile Pond
31
36
31
30
36
31
Jonesville
Newberry
30
Jeb Knight Pond
6
1
6
1
6
25
Knighting Pond
R 16 E
Radio Tower
R 16 E
R 17 E
R 17 E
R 18 E
30
25
Waccasa Lake
25
27
28
Boat Pond
30
25
Half Moon Pond
Pinesville
Shirley Lake
Horseshoe Pond
25
36
31
36
31
31
McCain Lake
Haven Winquipin
GILCHRIST CO
LEVY CO
ALACHUA CO
Bowen Lake
Jones Pond
Waters Pond
6
6
1
6
25
Crabgrass Pond
Watermelon Pond
Grass Pond
McGowen Pond
110101
25
JEEP TRAIL
24
Archer
53'
Winquipin Lake
Waccasassa River
Barrel Bend
SEABOARD
Millhopper Pond
Gasman Pond
40'
50'
TRAIL
52"
50'
JEEP
Cubberly Pond
LEVY CO
ALACHUA CO
Porchmans Pond
25
Big Pete Lake


Gainesville
Pine Hill Estates
West Hills
Suburban Heights
Sunland Trn Ctr State Hosp
City Park
Hillcrest Memorial Cem
T 9 S
T 10 S
R 18 E
R 19 E
R 19 E
R 20 E
R 20 E
R 21 E
GRANT BOUNDARY
ARREDONDO
Hogtown
Hogtown Prairie
Lake Alice
Univ of Florida
VA Hospital
Stengel Airport
Lake Kanapaha
Bivans Arm
Evergreen Cem
Robinson Heights
Arredondo
Rocky Point
PAYNES PRAIRIE STATE PRESERVE
Paynes Prairie
Prairie Creek
ARREDONDO GRANT BOUNDARY
T 10 S
T 11 S
Wacahoota
Kanapaha Prairie
Peach Orchard
MOSES E LEVY GRANT
Chacala Pond
Stafford Pond
Kirkwood
Georges Pond
Sawgrass Pond
Wauberg Lake
Tacoma
Levy Lake
Lowman Pond
Fish Pond
CAMPS CANAL
SEABOARD COAST
26
20
24
121
329
331
441
234
36
31
1
6
25
30
35
40
50

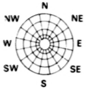

Lake Rowan
Lake Barco
Lake Goodson
250
Campville
36
31
36
31
T 9 S
T 10 S
Lake
Windsor
1
6
1
6
Lake Winnott
3280000mN
Levys Prairie
South Bull Pond
Little Orange Creek
R 21 E
R 22 E
BOUNDARY
GRANT
ARREDONDO
Lochloosa
R 22 E
R 23 E
Rex
1 925
1 925
Fowlers Lake
Creek
T 10 S
20
Fowlers Prairie
Newnans
JEEP TRAIL
North Twin Lakes
South Twin Lake
Coupen Lake
Rochelle
234
325
Grove Park
Hawthorne
Johnson Lake
McMeekin
McMeekin Lake
225
SEABOARD COAST LINE
36
31
Creek
36
31
Little Orange Lake
Little Orange
Perry Pond
Tilmond Pond
T 10 S
T 11 S
JEEP TRAIL
1
6
1
6
Bream Lake
Redwater Lake
Creek
1 900
1 900 000 FEET (EAST)
Palatka Pond
LINE
Mosquito Bay
JEEP TRAIL
SEABOARD
COAST
Green Pond
Lake Jeffords
JEEP TRAIL
Watson Prairie
Ox Pond
River Styx
Lochloosa Lake
ALACHUA CO
PUTNAM CO
Star Lake
Rice Lake
200
T 11 S
301
Pine Lake
50
40
30
25
20
35
45

(1951-1980 National Weather Service Normal Base Period)
The contour interval is 1.0" (refer to narrative for monthly isohyetal maps and for trend evaluation).

6

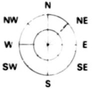
NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION

(Number in the box on map refers to station name in supplementa; legend'


N
NE
E
SE
S
SW
W
NW

WIND ROSE STATION

Concentric circles represent 5% frequency interval. The average wind speed (mph) is listed in the outer quadrant of each vector direction (Wind rose data represents wind data that has been summarized by the National Climatic Center for Airports, Naval Air Stations and NWS Offices)


N
NE
E
SE
S
SW
W
NW

OFFSHORE SURFACE CURRENT ROSE

Resultant vectors for each season are shown. The magnitude of each vector is proportional to the velocity. (Concentric circles represent 3 centimeters/second currents)
Vectors defined by the New England Coastal Engineers Computer Model G.A.L.

S	Spring
Su	Summer
FW	Fall/Winter

HURRICANE INUNDATION ZONES

(Maximum areas subject to flooding by Storm Category, as defined by National Weather Service Computer Models)

▨ Category #1 Storm (74-95 mph winds; probability of occurence none)

▨ Category #2 Storm (96-110 mph winds; probability of occurence none)

☐ Category #3 Storm (111-130 mph winds; probability of occurence none)

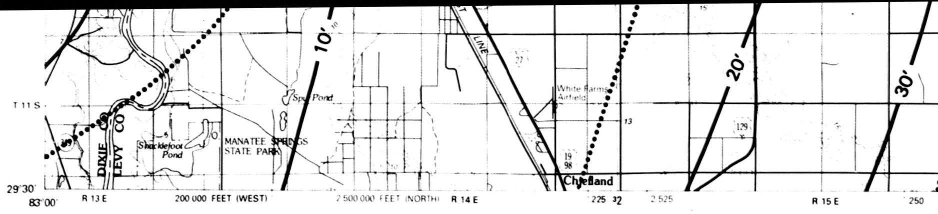
☐ Category #4 Storm (131-155 mph winds; probability of occurence none)

☐ Category #5 Storm (> 155 mph winds; probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

MICROCOPY RESOLUTION TEST CHART
NBS 1010a
ANSI and ISO TEST CHART No 2

1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5


10'
20'
30'
T 11 S
DIXIE CO
LEVY CO
Shacklefoot Pond
Spy Pond
MANATEE SPRINGS STATE PARK
LINE
White Farms Airfield
Chiefland
129
27
19
98
13
15
29°30'
83°00'
R 13 E
200 000 FEET (WEST)
2 500 000 FEET (NORTH)
R 14 E
225
32
2 525
R 15 E
250

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1982

THE FLORIDA ECOLOGICAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES, NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS - 82/47) AND THE MINERALS MANAGEMENT SERVICE FOR COASTAL PLANNERS, DECISION MAKERS, AND THE GENERAL PUBLIC, TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES THE COASTAL COUNTIES: ESCAMBIA, SANTA ROSA, OKALOOSA, WALTON, WASHINGTON, BAY, CALHOUN, GULF, FRANKLIN, WAKULLA, JEFFERSON, TAYLOR, DIXIE, LEVY, CITRUS AND HERNANDO, AND EXTENDS OFFSHORE APPROXIMATELY 10 MILES. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

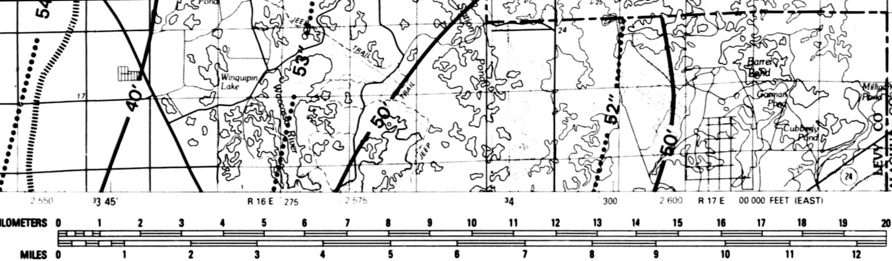
THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

PRIMARY SOURCES OF MAPPED INFORMATION:

HYDROLOGY: Potentiometric Surface of the Floridan Aquifer, Northwest Florida Water Management District, Tallahassee, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Suwanee River Water Management District, Live Oak, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Southwest Florida Water Management District, Brooksville, Florida, 1981.
Sea, Lake, and Overland Surges from Hurricanes (SLOSH) Model, National Oceanic and Atmospheric Administration, Silver Spring, Maryland, 1981.
Water Resources Data for Florida, U.S. Geological Survey, Tallahassee, Florida, 1979, 1980.
Water Quality Inventory for the State of Florida, Dept. of Environmental Regulation, Tallahassee, Florida, 1982.
Current Atlas of the West Florida Shelf, New England Coastal Engineers, Bangor, Maine. 1982.

CLIMATOLOGY: National Climatic Center, Asheville, North Carolina. 1981.

FOR COMPLETE REFERENCES SEE MAP NARRATIVE


54
Pond
Winquipin Lake
JEEP
TRAIL
53'
40'
17
Waccasassa River
50'
TRAIL
JEEP
Pond
24
52"
50'
Barrel Pond
Gasman Pond
Cubbedy Pond
Milligan Pond
LEVY CO
ALACHUA CO
24
Parchman Pond
Jake White Pond
Archer
SEABOARD COAST LINE
Blue Pete Lake
25
2 550
33 45'
R 16 E
275
2 575
34
300
2 600
R 17 E
00 000 FEET (EAST)
325
35
2 625
30'
25
R 1
KILOMETERS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
MILES 0 1 2 3 4 5 6 7 8 9 10 11 12

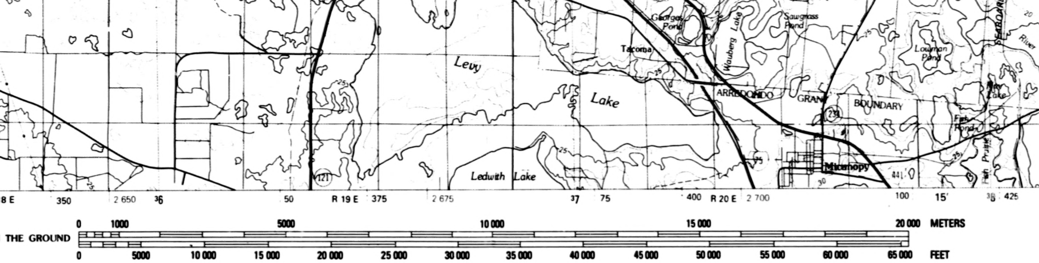
SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON

CONTOUR INTERVAL 5 METERS

CLIMATOLOGICAL STATION

1. Pensacola FAA Airport
2. Milton Experimental Station
3. Crestview FAA Airport
4. De Funiak Springs
5. Niceville
6. Chipley 3 E
7. Panama City NE


Levy
Lake
Ledwith Lake
Tacoma
Georges Pond
Wauberg Lake
Sawgrass Pond
Lowman Pond
ARREDONDO
GRANT
BOUNDARY
Fish Pond
Micanopy
River
121
234
75
441
8 E
350
2 650
36
50
R 19 E
375
2 675
37
75
400
R 20 E
2 700
100
15′
38
425
0
1000
5000
10 000
15 000
20 000
METERS
THE GROUND
0
5000
10 000
15 000
20 000
25 000
30 000
35 000
40 000
45 000
50 000
55 000
60 000
65 000
FEET

NAMES

8. Blountstown
9. Apalachicola Airport
10. St. Marks 5 SSE
11. Monticello 3 W
12. Cross City 2 WNW
13. Inverness
14. Brooksville Chinsegut Hill

U.S. GEOLOGICAL SURVEY HYDROLOGIC UNIT BOUNDARIES (Cont'd)

Coastal Area between Ochlockonee and Apalachicola Rivers (130013)
Ochlockonee River Basin (120003)
St. Marks and Wakulla Rivers and Coastal Area between Aucilla and Ochlockonee Rivers (120001)
Aucilla River Basin (110103)
Coastal Area between Suwannee and Aucilla Rivers (110102)
Suwannee River Basin below Withlacoochee River excluding Santa Fe River Basin (110205)
Waccasassa River and Coastal Area between Withlacoochee and Suwannee Rivers (110101)
Oklawaha River Basin (080102)
Withlacoochee River Basin (100208)
Coastal Area from Tampa Bay to Withlacoochee River (100207)

▲ Q=___cfs
R=___in/yr

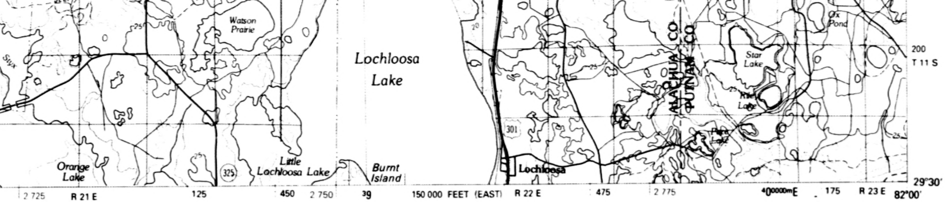
U.S. GEOLOGICAL SURVEY STREAM GAGING STATION

Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R

△ SC=___mmhos
Q=___cfs
R=___in/yr

U.S. GEOLOGICAL SURVEY STREAM GAGE AND SURFACE WATER QUALITY STATION

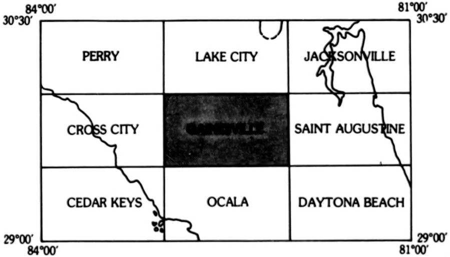
Mean Annual Surface Water Specific Conductivity (micromhos) = SC
Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R


Watson Prairie
Lochloosa Lake
Orange Lake
Little Lochloosa Lake
Burnt Island
Lochloosa
325
301
ALACHUA CO
PUTNAM CO
Star Lake
Ox Pond
200
T 11 S
29°30′
2 725
R 21 E
125
450
2 750
39
150 000 FEET (EAST)
R 22 E
475
2 775
400000mE
175
R 23 E
82°00′

GAINESVILLE, FLORIDA

N2930–W8200/30 X 60

1981


84°00′
30°30′
81°00′
30°30′
PERRY
LAKE CITY
JACKSONVILLE
CROSS CITY
GAINESVILLE
SAINT AUGUSTINE
CEDAR KEYS
OCALA
DAYTONA BEACH
29°00′
84°00′
29°00′
81°00′

△	**FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION FIXED SURFACE WATER STATION** (Insufficient period of record to establish a long term mean)
○ SC= ___ mmhos Cl= ___ mg/l	**U.S. GEOLOGICAL SURVEY GROUND WATER OBSERVATION AND WATER QUALITY WELL** Mean Annual Ground Water Specific Conductivity (micromhos) = SC Dissolved Chloride (milligrams/liter) = Cl
S = ___ ppt	**MEAN ANNUAL COASTAL SALINITY** (parts per thousand) = S
	STUDY AREA BOUNDARY
▮▮▮▮▮▮▮▮▮▮	Offshore
— — —	Inland (County)
—— - - ——	Inland (State)

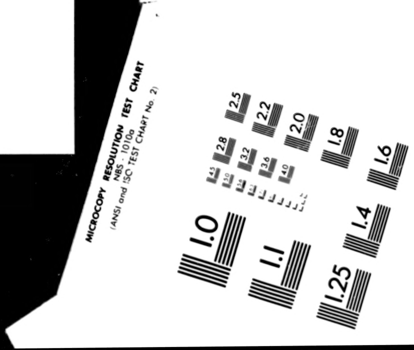
Category #5 Storm (> 155 mph winds; probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

U.S. GEOLOGICAL SURVEY
HYDROLOGIC UNIT BOUNDARIES

Perdido River Basin (14106)
Perdido Bay, Inflow and Coastal Area (140107)
Lower Conecuh River Basin (140304)
Escambia River Basin (140305)
Blackwater River Basin (140104)
Escambia Bay, Inflow and Coastal Area (140105)
Yellow River Basin (140103)
Choctawhatchee Bay, Inflow and Coastal Area (140102)
Pea River Basin (140202)
Choctawatchee River below Pea River (140203)
St. Andrews Bay, Inflow and Coastal Area (140101)
Chipola River Basin (130012)
Apalachicola River Basin (130011)
Apalachicola Bay Coastal Area and Offshore Islands (130014)

MICROFILMED FROM
BEST AVAILABLE COPY


MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)
2.5
2.2
2.0
1.8
1.6
2.8
3.2
3.6
4.0
4.5
5.0
5.6
1.0
1.1
1.25
1.4